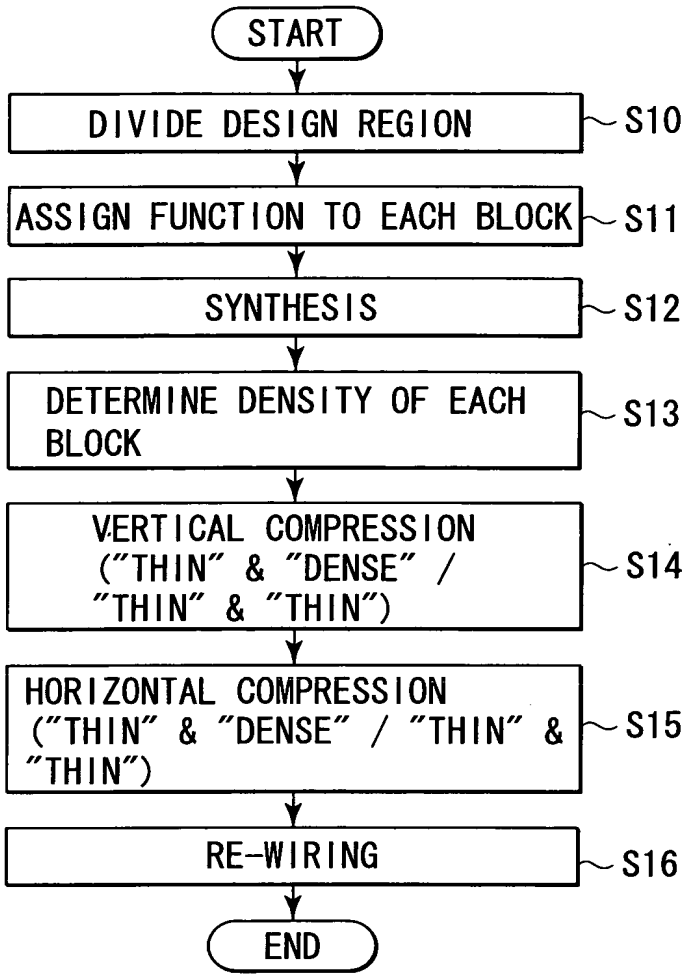

START
DIVIDE DESIGN REGION
S10
ASSIGN FUNCTION TO EACH BLOCK
S11
SYNTHESIS
S12
DETERMINE DENSITY OF EACH BLOCK
S13
VERTICAL COMPRESSION ("THIN" & "DENSE" / "THIN" & "THIN")
S14
HORIZONTAL COMPRESSION ("THIN" & "DENSE" / "THIN" & "THIN")
S15
RE-WIRING
S16
END

FIG. 1

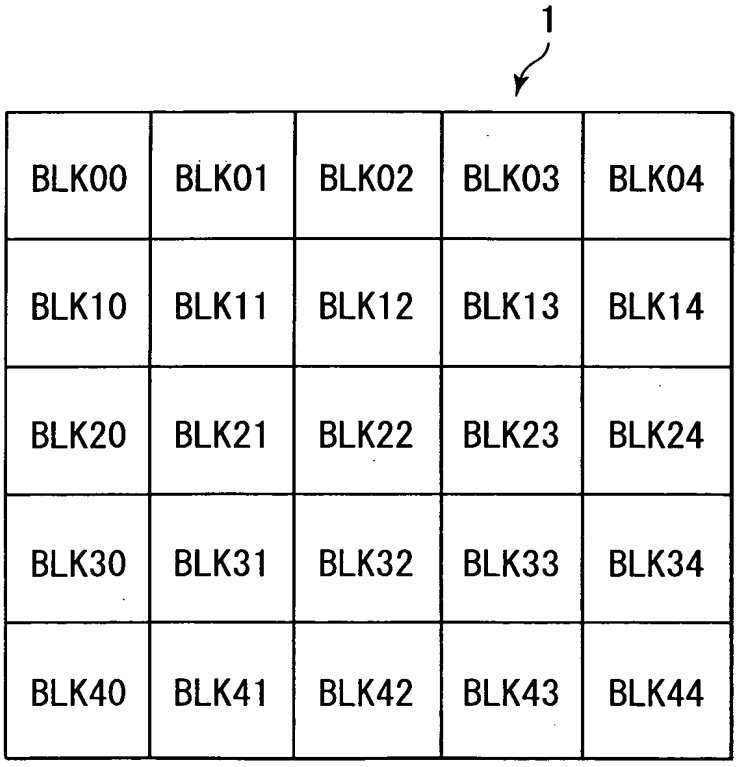

1
BLK00
BLK01
BLK02
BLK03
BLK04
BLK10
BLK11
BLK12
BLK13
BLK14
BLK20
BLK21
BLK22
BLK23
BLK24
BLK30
BLK31
BLK32
BLK33
BLK34
BLK40
BLK41
BLK42
BLK43
BLK44

FIG. 2

FIG. 3

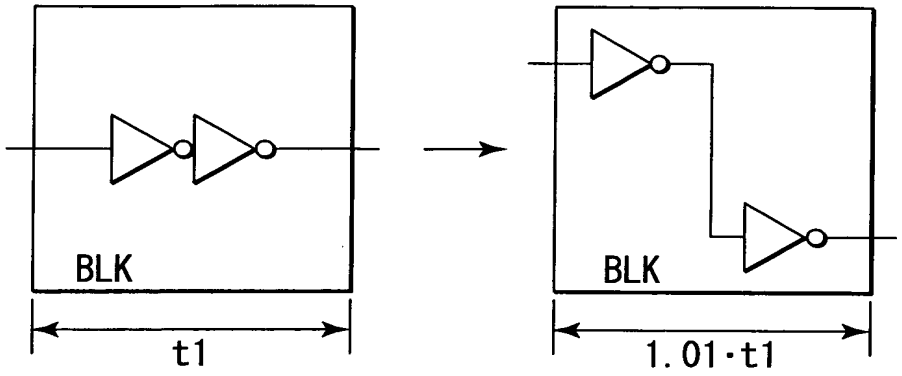
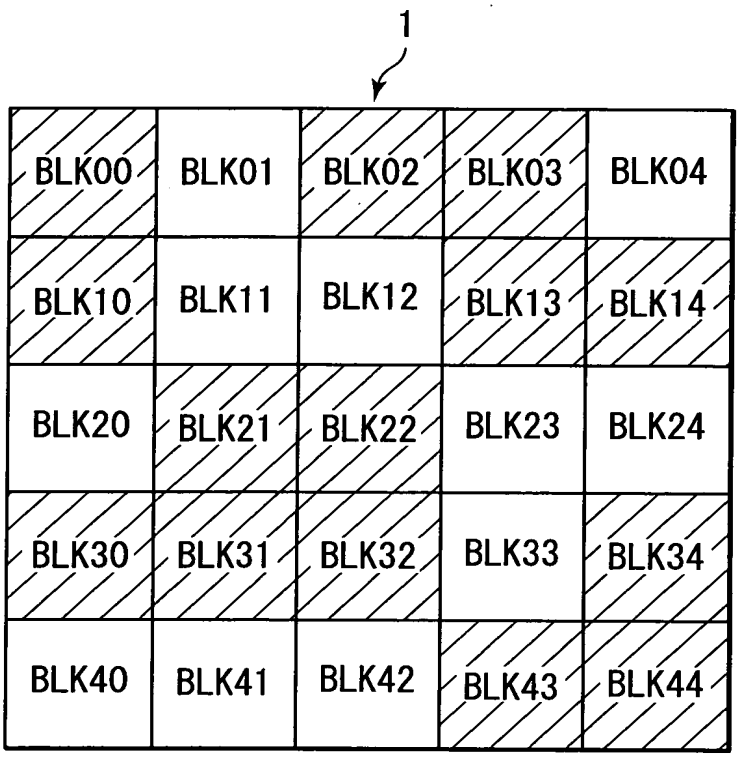


FIG. 4



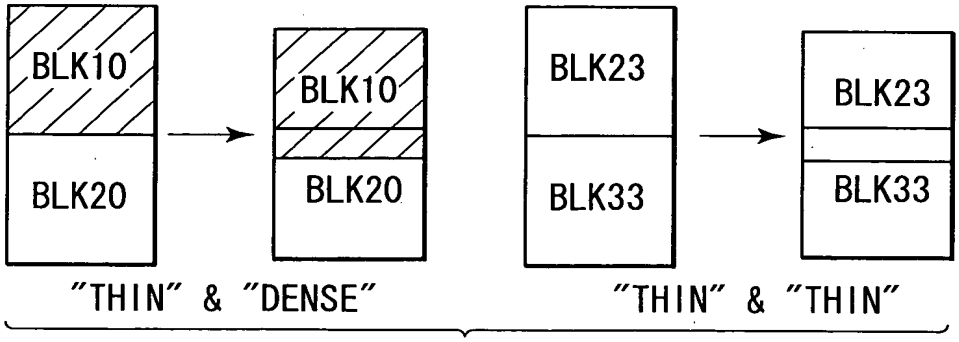


FIG. 5

FIG. 6

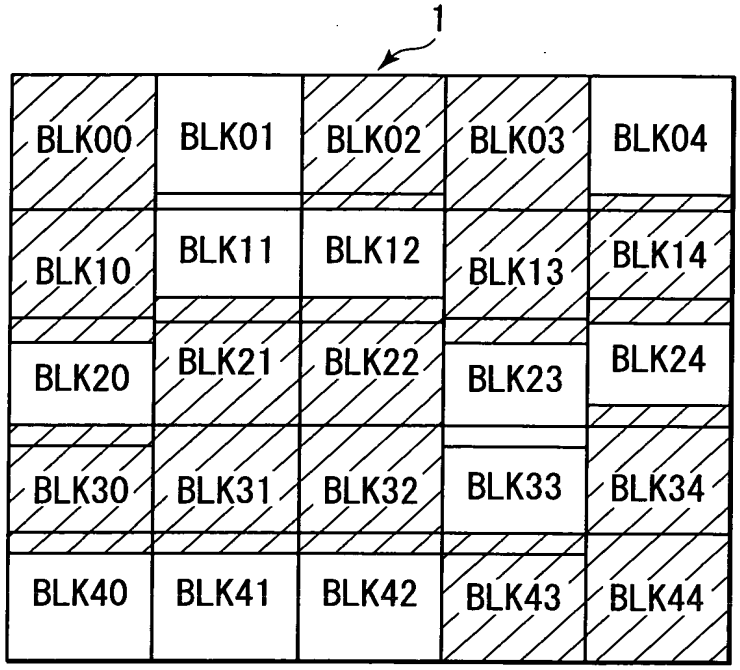
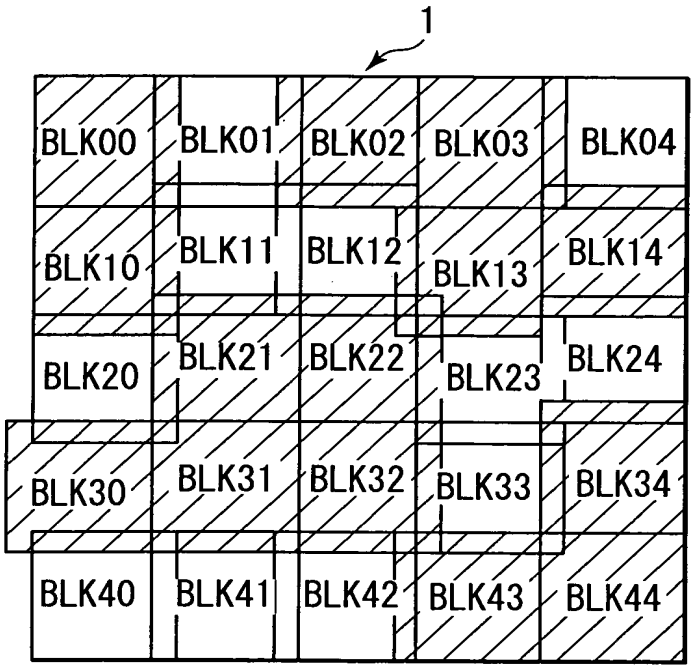

1
BLK00
BLK01
BLK02
BLK03
BLK04
BLK10
BLK11
BLK12
BLK13
BLK14
BLK20
BLK21
BLK22
BLK23
BLK24
BLK30
BLK31
BLK32
BLK33
BLK34
BLK40
BLK41
BLK42
BLK43
BLK44

FIG. 7


1
BLK00
BLK01
BLK02
BLK03
BLK04
BLK10
BLK11
BLK12
BLK13
BLK14
BLK20
BLK21
BLK22
BLK23
BLK24
BLK30
BLK31
BLK32
BLK33
BLK34
BLK40
BLK41
BLK42
BLK43
BLK44

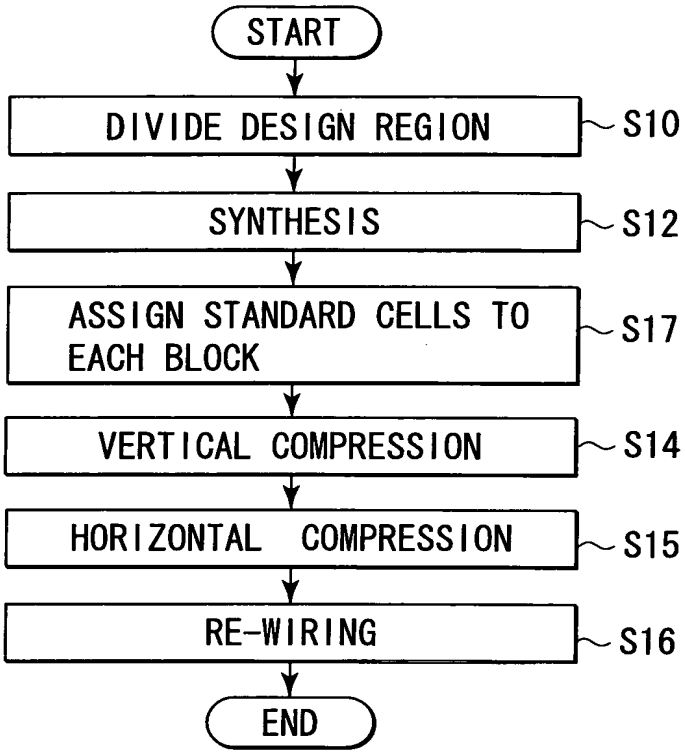

START
DIVIDE DESIGN REGION
S10
SYNTHESIS
S12
ASSIGN STANDARD CELLS TO EACH BLOCK
S17
VERTICAL COMPRESSION
S14
HORIZONTAL COMPRESSION
S15
RE-WIRING
S16
END

FIG. 8

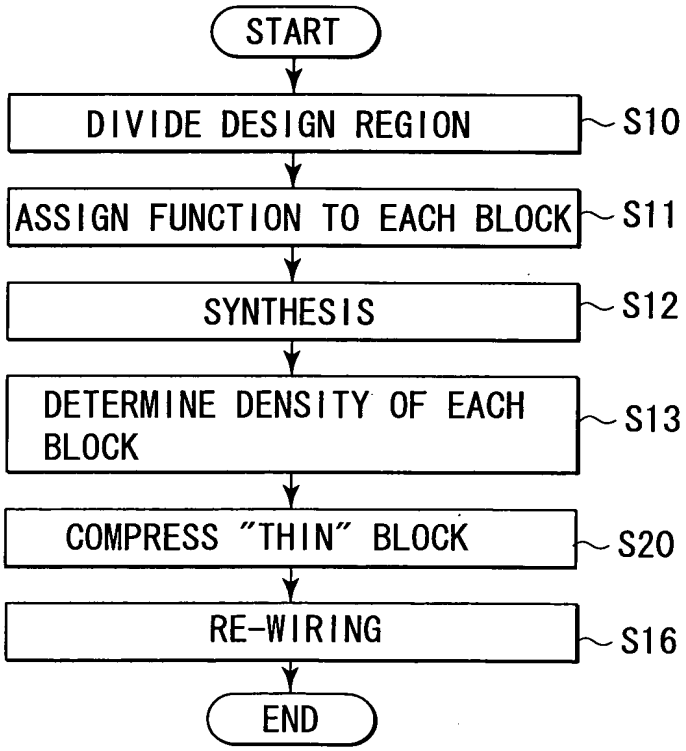

START
DIVIDE DESIGN REGION
S10
ASSIGN FUNCTION TO EACH BLOCK
S11
SYNTHESIS
S12
DETERMINE DENSITY OF EACH BLOCK
S13
COMPRESS "THIN" BLOCK
S20
RE-WIRING
S16
END

FIG. 9

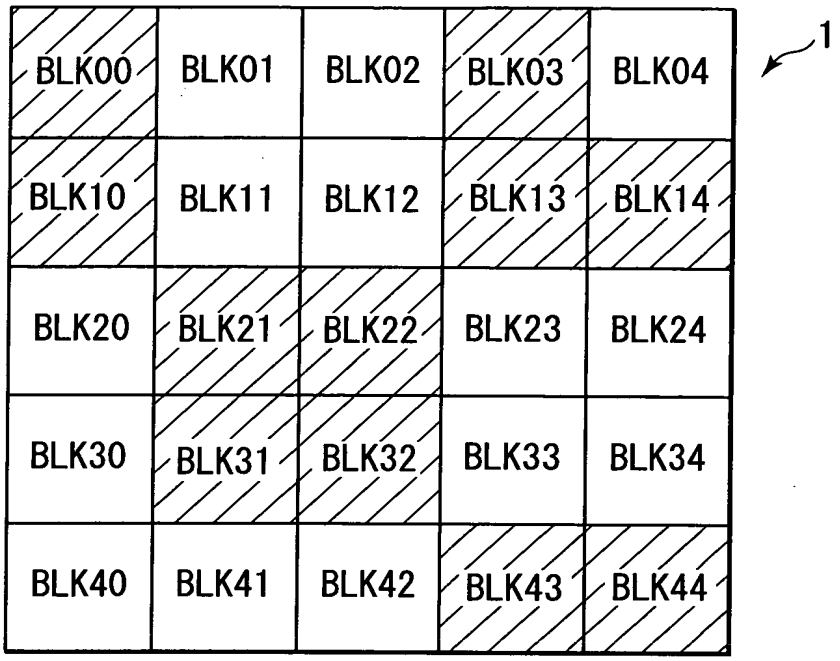


FIG. 10

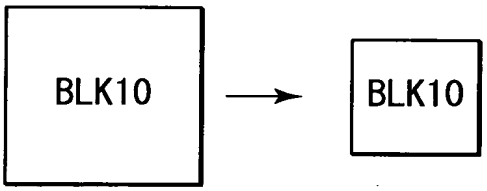


FIG. 11

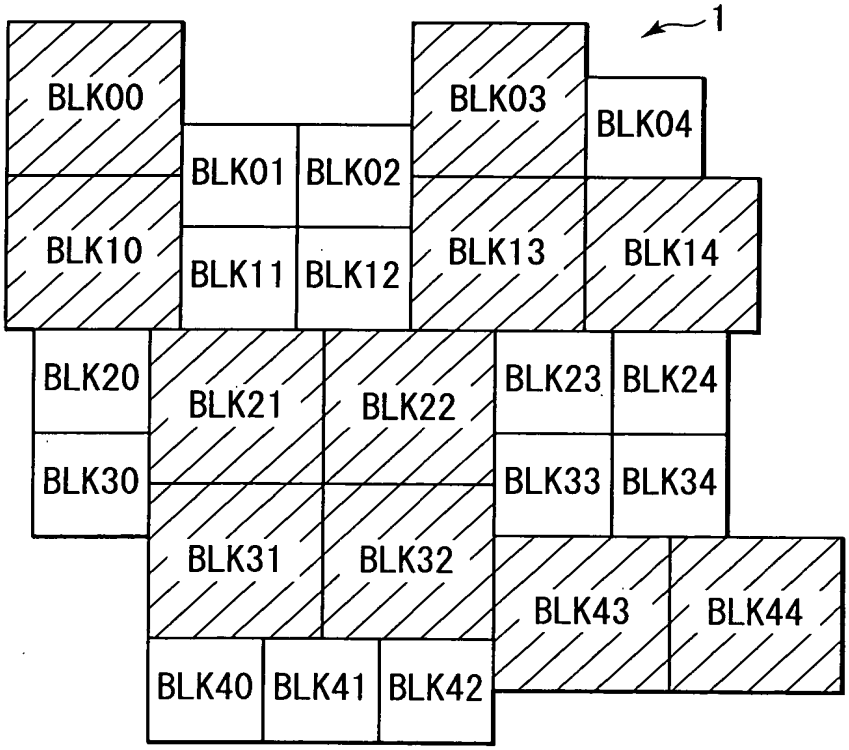


FIG. 12

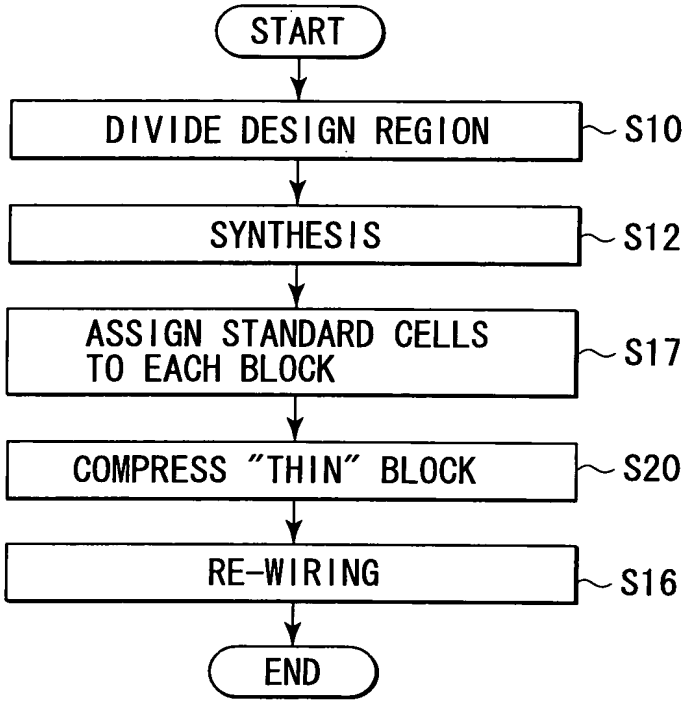

START
DIVIDE DESIGN REGION
S10
SYNTHESIS
S12
ASSIGN STANDARD CELLS TO EACH BLOCK
S17
COMPRESS "THIN" BLOCK
S20
RE-WIRING
S16
END

FIG. 13

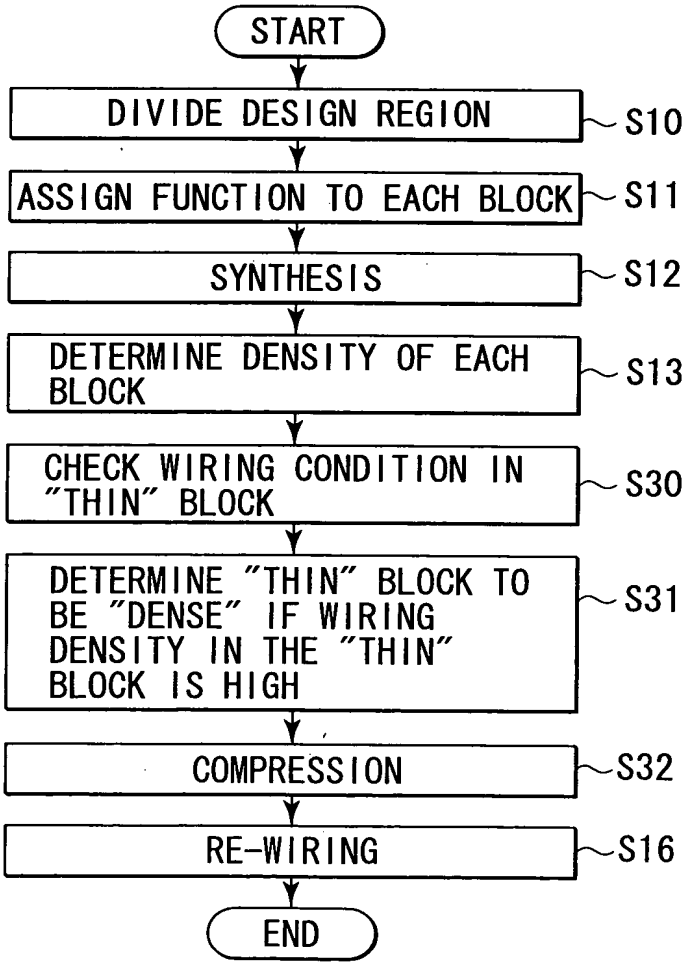

START
DIVIDE DESIGN REGION
S10
ASSIGN FUNCTION TO EACH BLOCK
S11
SYNTHESIS
S12
DETERMINE DENSITY OF EACH BLOCK
S13
CHECK WIRING CONDITION IN "THIN" BLOCK
S30
DETERMINE "THIN" BLOCK TO BE "DENSE" IF WIRING DENSITY IN THE "THIN" BLOCK IS HIGH
S31
COMPRESSION
S32
RE-WIRING
S16
END

FIG. 14

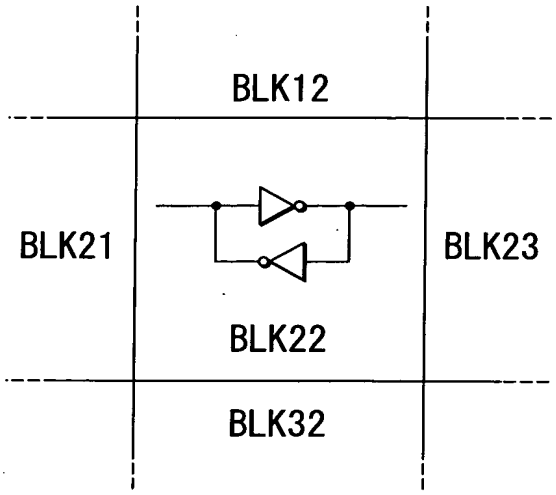

BLK12
BLK21
BLK23
BLK22
BLK32
BLK22 IS "THIN"

FIG. 15

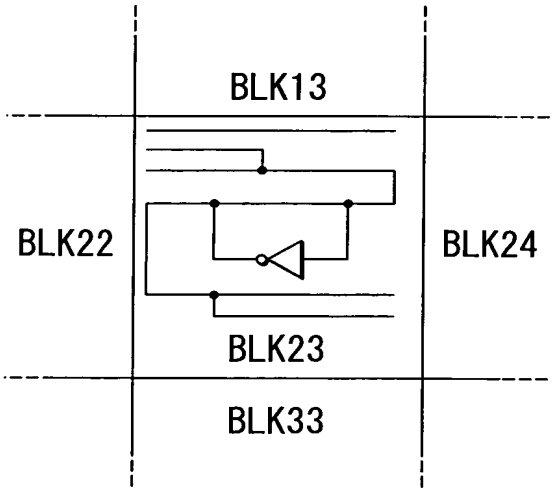

BLK13
BLK22
BLK24
BLK23
BLK33
BLK23 IS "DENSE"

FIG. 16

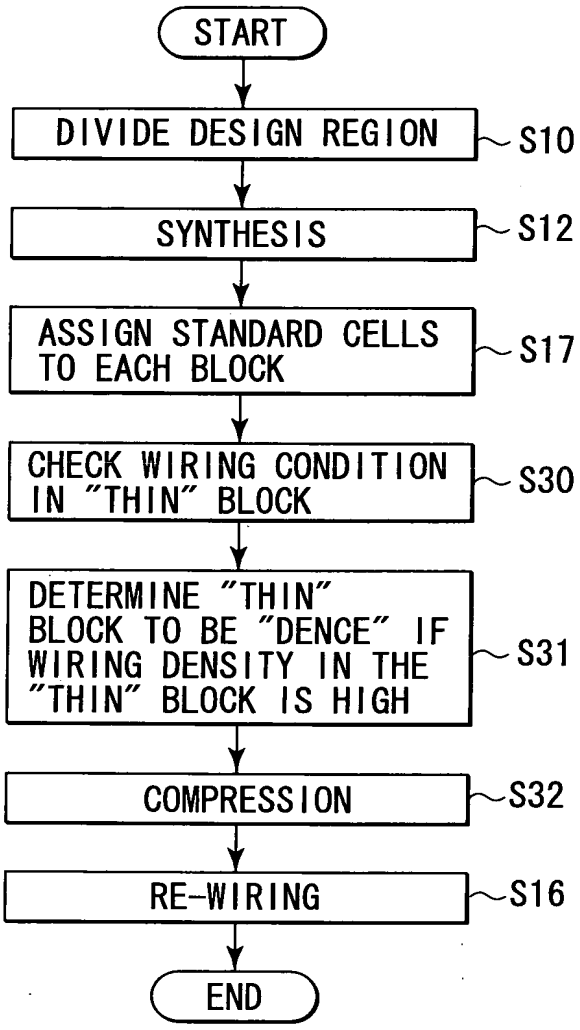

START
DIVIDE DESIGN REGION
S10
SYNTHESIS
S12
ASSIGN STANDARD CELLS TO EACH BLOCK
S17
CHECK WIRING CONDITION IN "THIN" BLOCK
S30
DETERMINE "THIN" BLOCK TO BE "DENCE" IF WIRING DENSITY IN THE "THIN" BLOCK IS HIGH
S31
COMPRESSION
S32
RE-WIRING
S16
END

FIG. 17

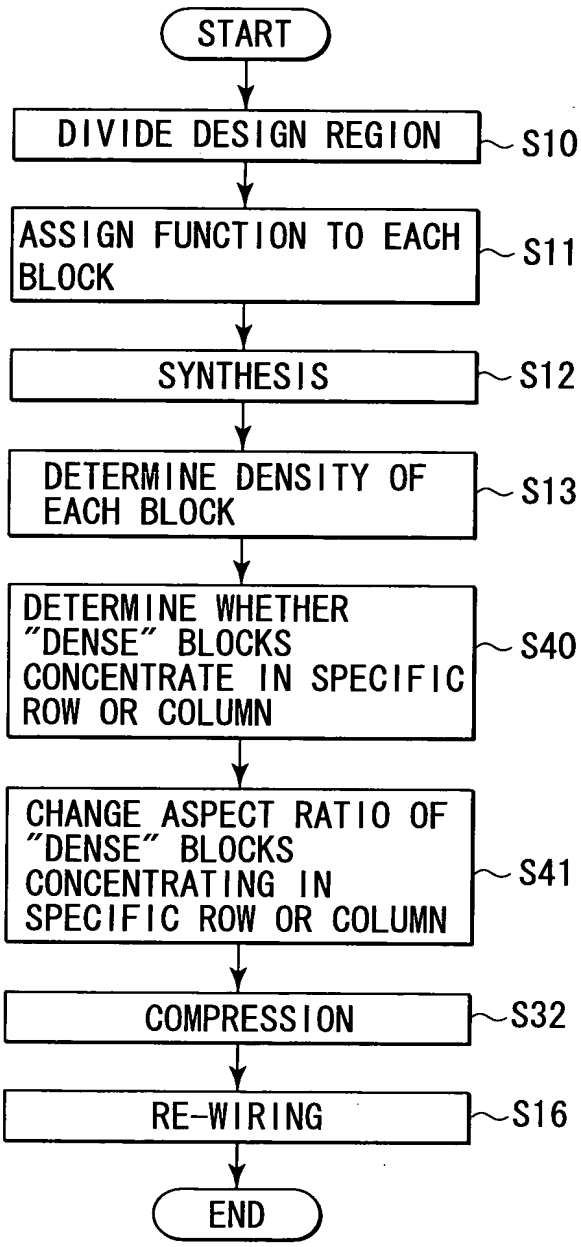

START
DIVIDE DESIGN REGION
S10
ASSIGN FUNCTION TO EACH BLOCK
S11
SYNTHESIS
S12
DETERMINE DENSITY OF EACH BLOCK
S13
DETERMINE WHETHER "DENSE" BLOCKS CONCENTRATE IN SPECIFIC ROW OR COLUMN
S40
CHANGE ASPECT RATIO OF "DENSE" BLOCKS CONCENTRATING IN SPECIFIC ROW OR COLUMN
S41
COMPRESSION
S32
RE-WIRING
S16
END

FIG. 18

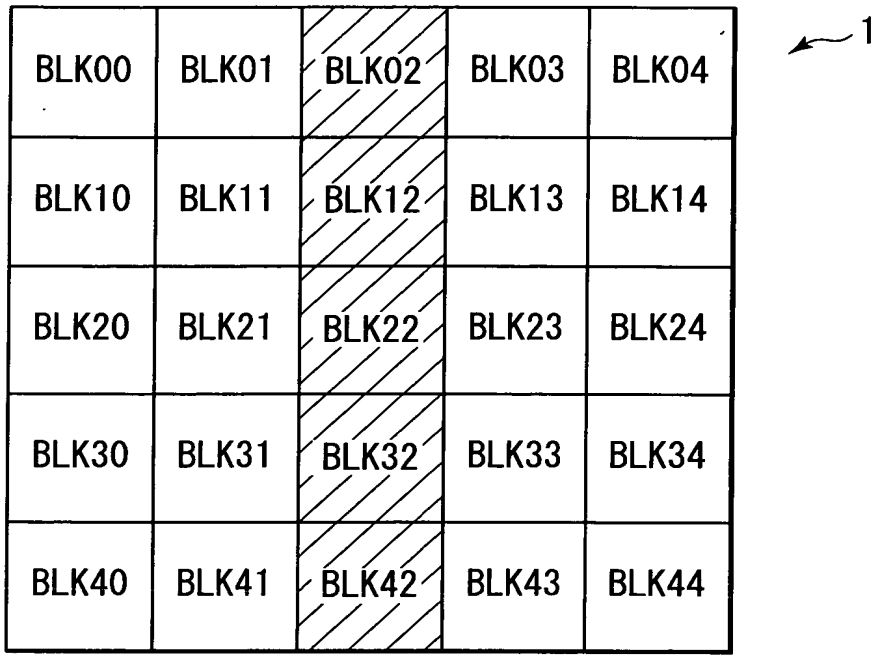

BLK00
BLK01
BLK02
BLK03
BLK04
BLK10
BLK11
BLK12
BLK13
BLK14
BLK20
BLK21
BLK22
BLK23
BLK24
BLK30
BLK31
BLK32
BLK33
BLK34
BLK40
BLK41
BLK42
BLK43
BLK44
1

FIG. 19

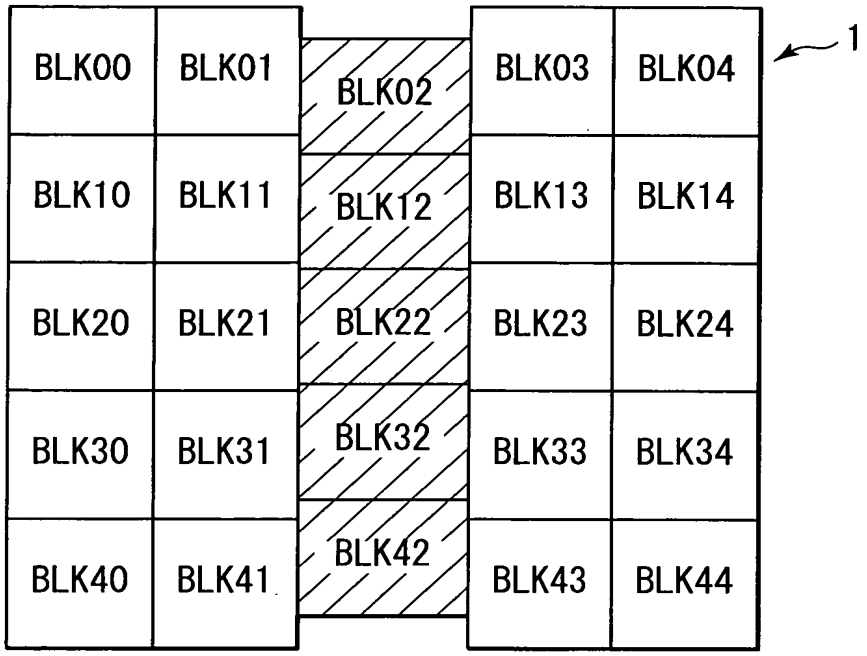

BLK00
BLK01
BLK02
BLK03
BLK04
BLK10
BLK11
BLK12
BLK13
BLK14
BLK20
BLK21
BLK22
BLK23
BLK24
BLK30
BLK31
BLK32
BLK33
BLK34
BLK40
BLK41
BLK42
BLK43
BLK44
1

FIG. 20

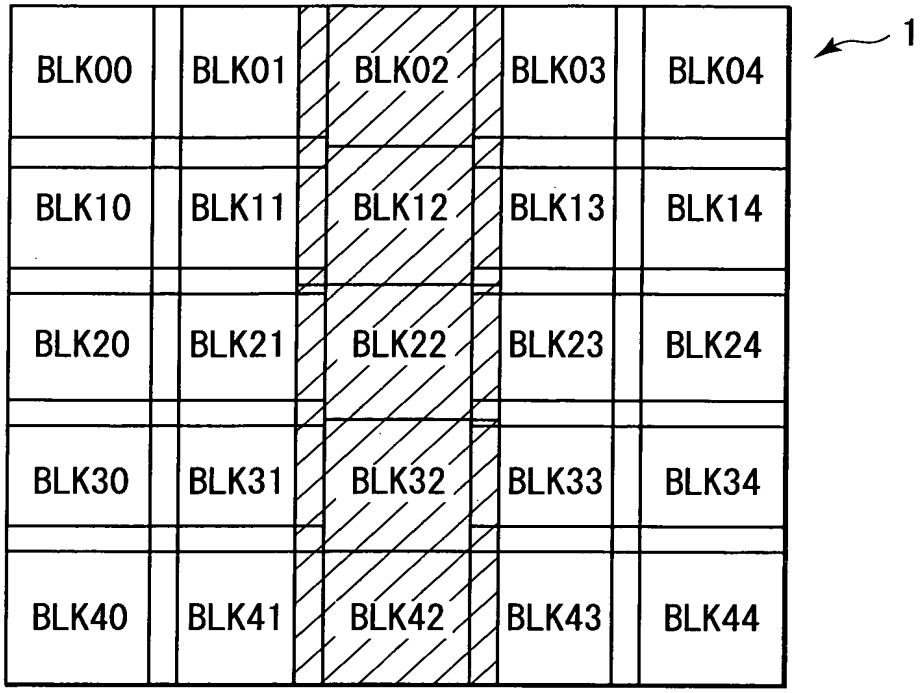

BLK00
BLK01
BLK02
BLK03
BLK04
BLK10
BLK11
BLK12
BLK13
BLK14
BLK20
BLK21
BLK22
BLK23
BLK24
BLK30
BLK31
BLK32
BLK33
BLK34
BLK40
BLK41
BLK42
BLK43
BLK44
1

FIG. 21

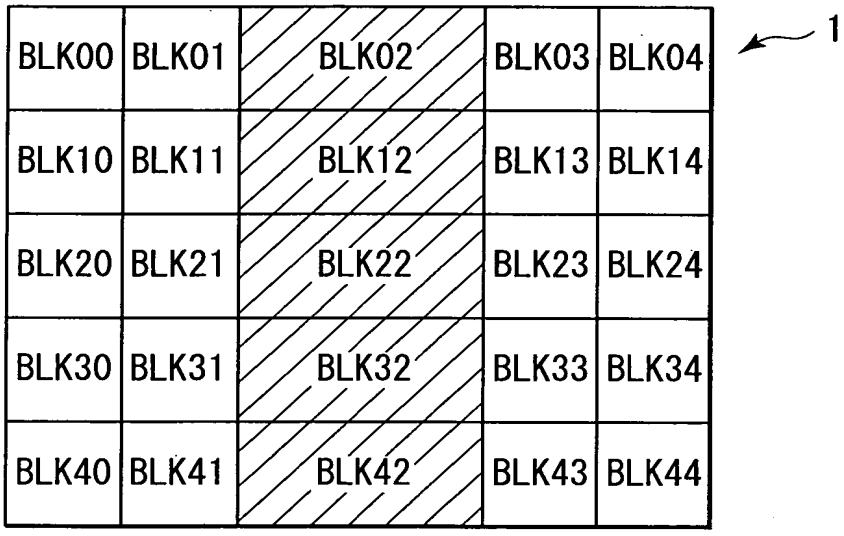

BLK00
BLK01
BLK02
BLK03
BLK04
BLK10
BLK11
BLK12
BLK13
BLK14
BLK20
BLK21
BLK22
BLK23
BLK24
BLK30
BLK31
BLK32
BLK33
BLK34
BLK40
BLK41
BLK42
BLK43
BLK44
1

FIG. 22

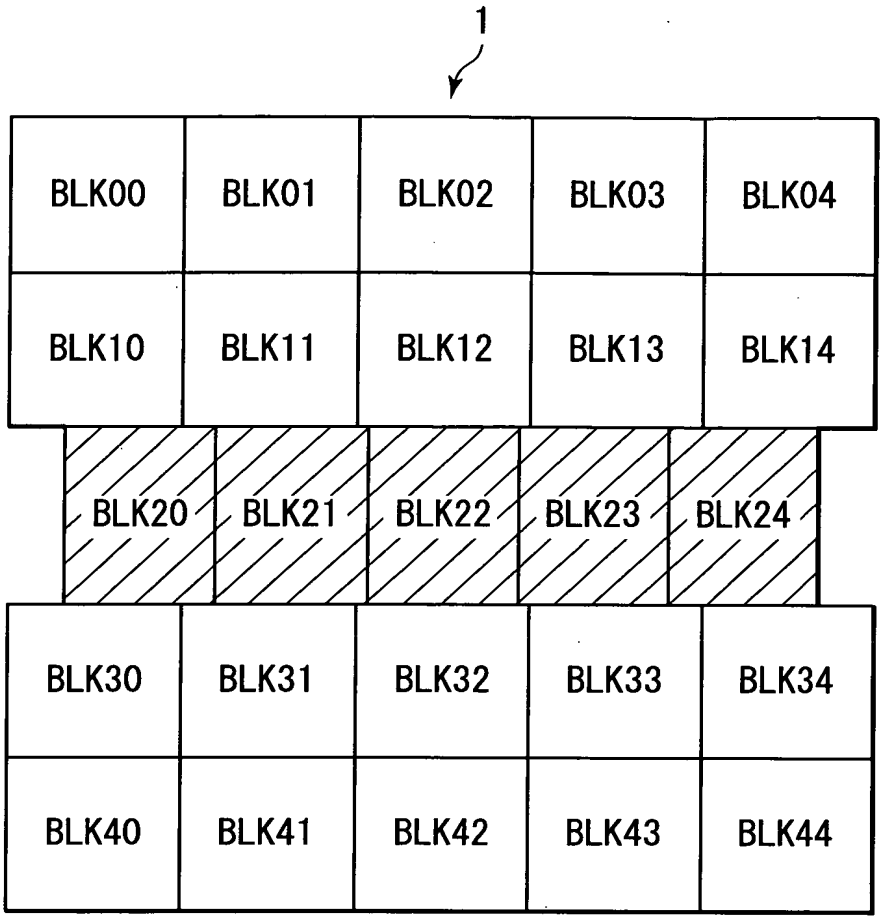

1
BLK00
BLK01
BLK02
BLK03
BLK04
BLK10
BLK11
BLK12
BLK13
BLK14
BLK20
BLK21
BLK22
BLK23
BLK24
BLK30
BLK31
BLK32
BLK33
BLK34
BLK40
BLK41
BLK42
BLK43
BLK44

FIG. 23

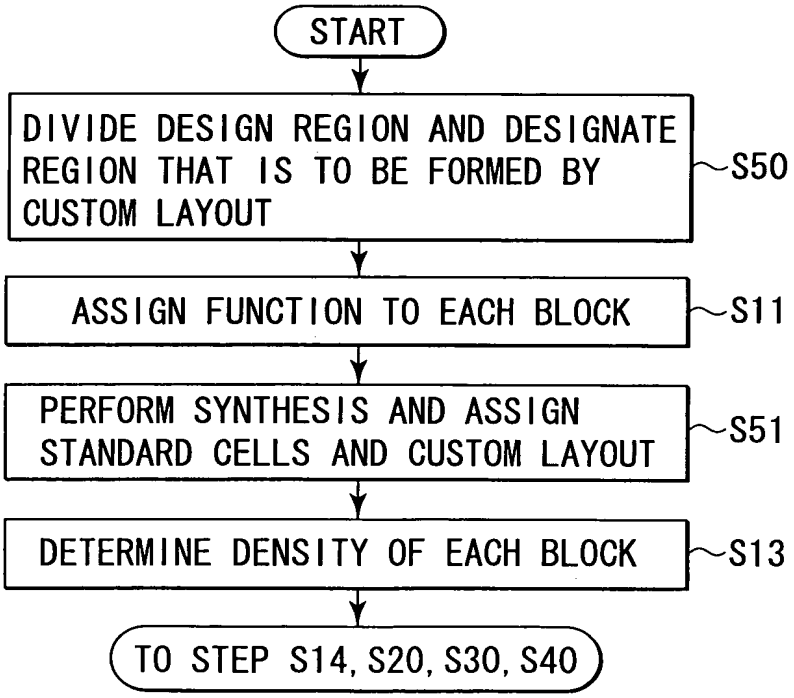

START
DIVIDE DESIGN REGION AND DESIGNATE REGION THAT IS TO BE FORMED BY CUSTOM LAYOUT
S50
ASSIGN FUNCTION TO EACH BLOCK
S11
PERFORM SYNTHESIS AND ASSIGN STANDARD CELLS AND CUSTOM LAYOUT
S51
DETERMINE DENSITY OF EACH BLOCK
S13
TO STEP S14, S20, S30, S40

FIG. 26

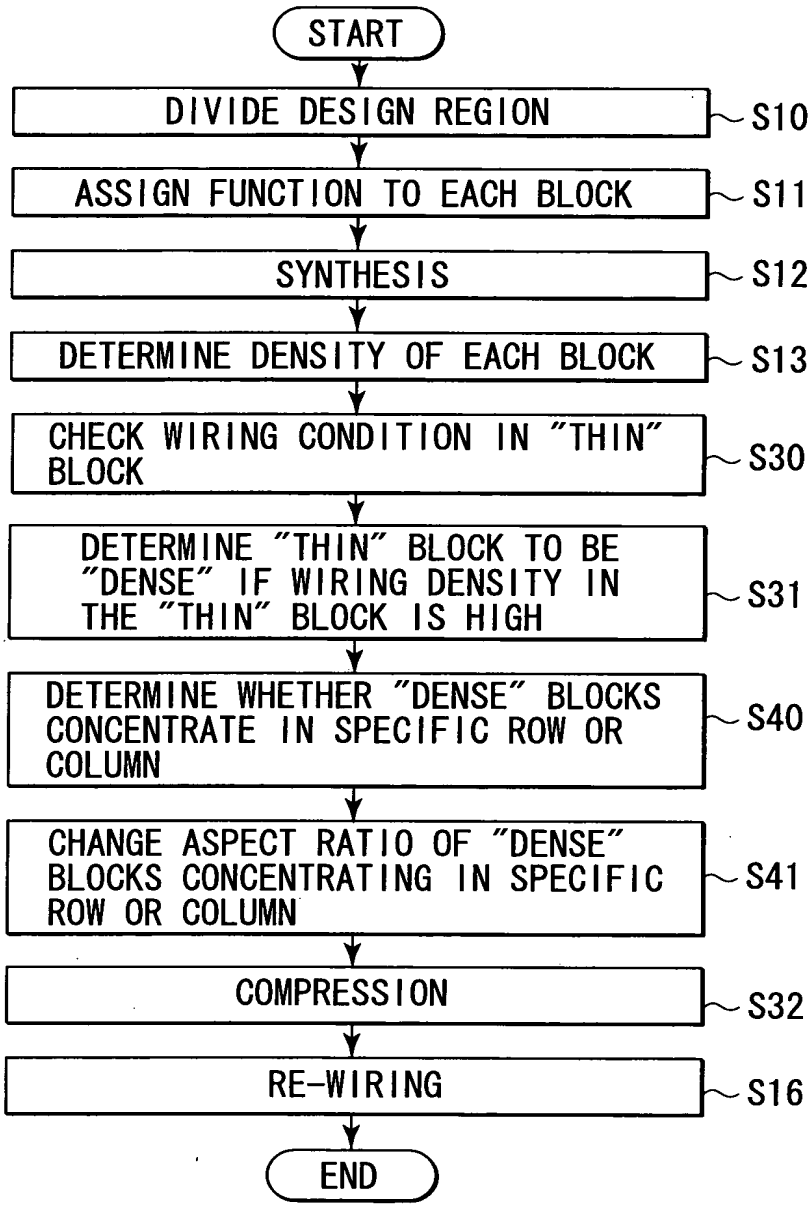

START
DIVIDE DESIGN REGION
S10
ASSIGN FUNCTION TO EACH BLOCK
S11
SYNTHESIS
S12
DETERMINE DENSITY OF EACH BLOCK
S13
CHECK WIRING CONDITION IN "THIN" BLOCK
S30
DETERMINE "THIN" BLOCK TO BE "DENSE" IF WIRING DENSITY IN THE "THIN" BLOCK IS HIGH
S31
DETERMINE WHETHER "DENSE" BLOCKS CONCENTRATE IN SPECIFIC ROW OR COLUMN
S40
CHANGE ASPECT RATIO OF "DENSE" BLOCKS CONCENTRATING IN SPECIFIC ROW OR COLUMN
S41
COMPRESSION
S32
RE-WIRING
S16
END

FIG. 24

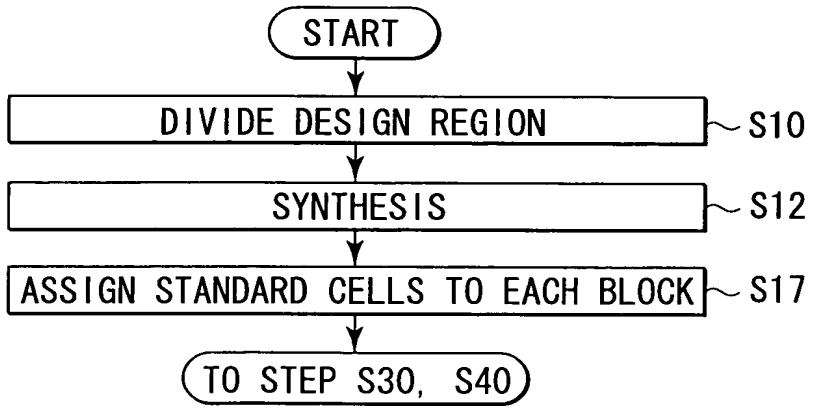

START
DIVIDE DESIGN REGION
S10
SYNTHESIS
S12
ASSIGN STANDARD CELLS TO EACH BLOCK
S17
TO STEP S30, S40

FIG. 25

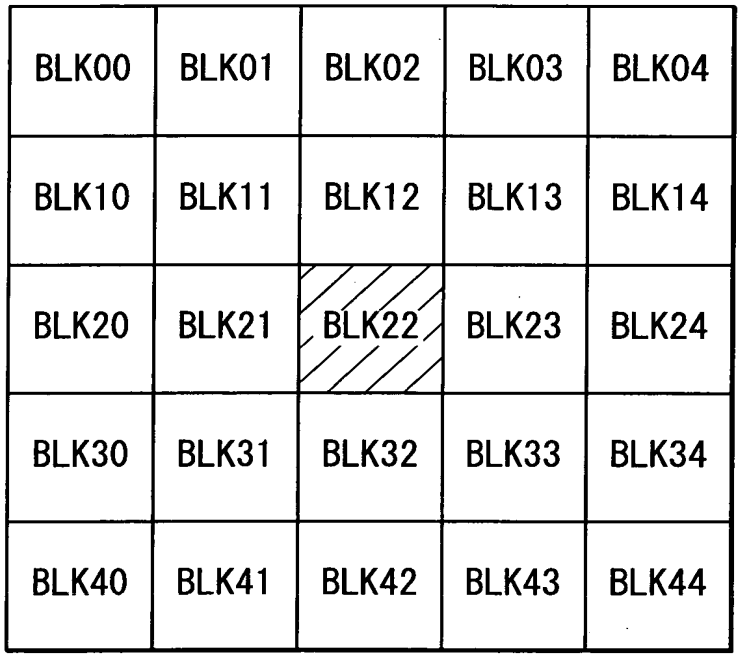

BLK00
BLK01
BLK02
BLK03
BLK04
BLK10
BLK11
BLK12
BLK13
BLK14
BLK20
BLK21
BLK22
BLK23
BLK24
BLK30
BLK31
BLK32
BLK33
BLK34
BLK40
BLK41
BLK42
BLK43
BLK44
1

FIG. 27

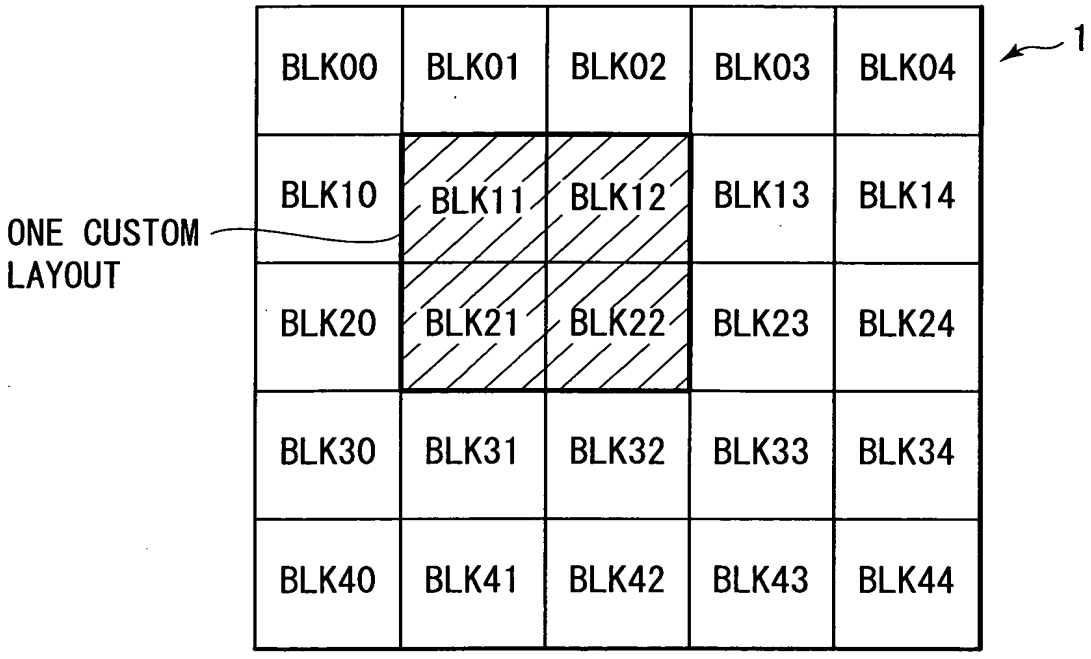

BLK00
BLK01
BLK02
BLK03
BLK04
BLK10
BLK11
BLK12
BLK13
BLK14
BLK20
BLK21
BLK22
BLK23
BLK24
BLK30
BLK31
BLK32
BLK33
BLK34
BLK40
BLK41
BLK42
BLK43
BLK44
1
ONE CUSTOM LAYOUT

FIG. 28

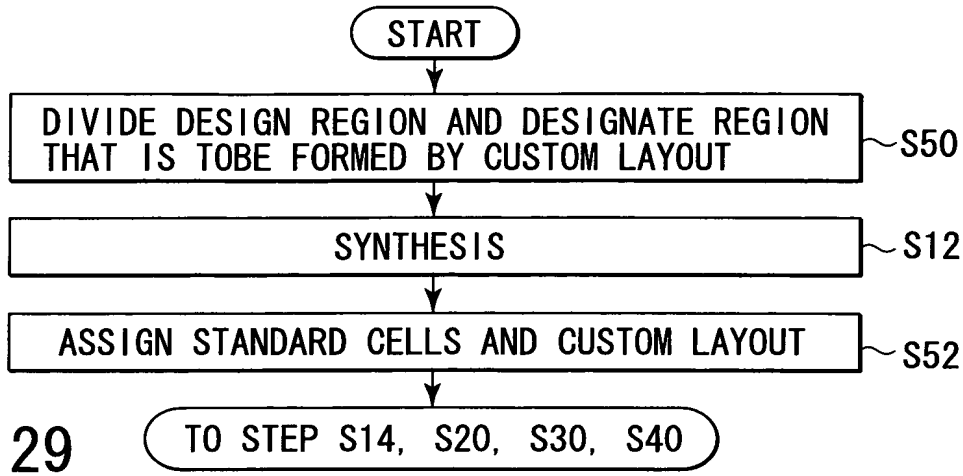


FIG. 29

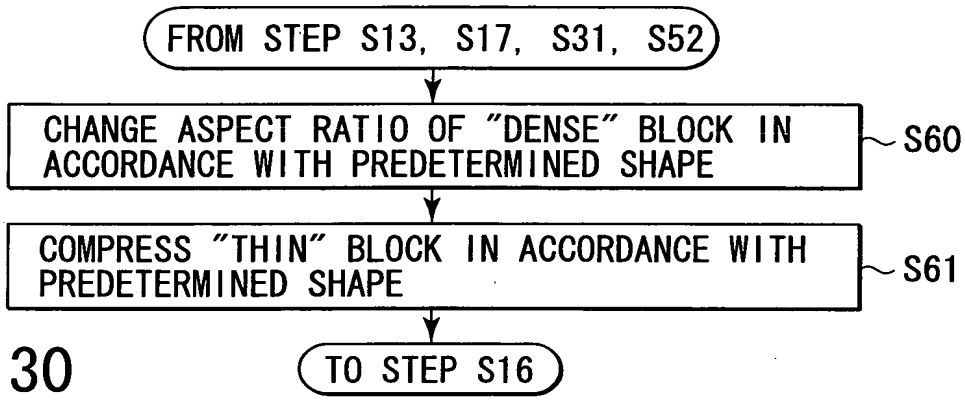


FIG. 30

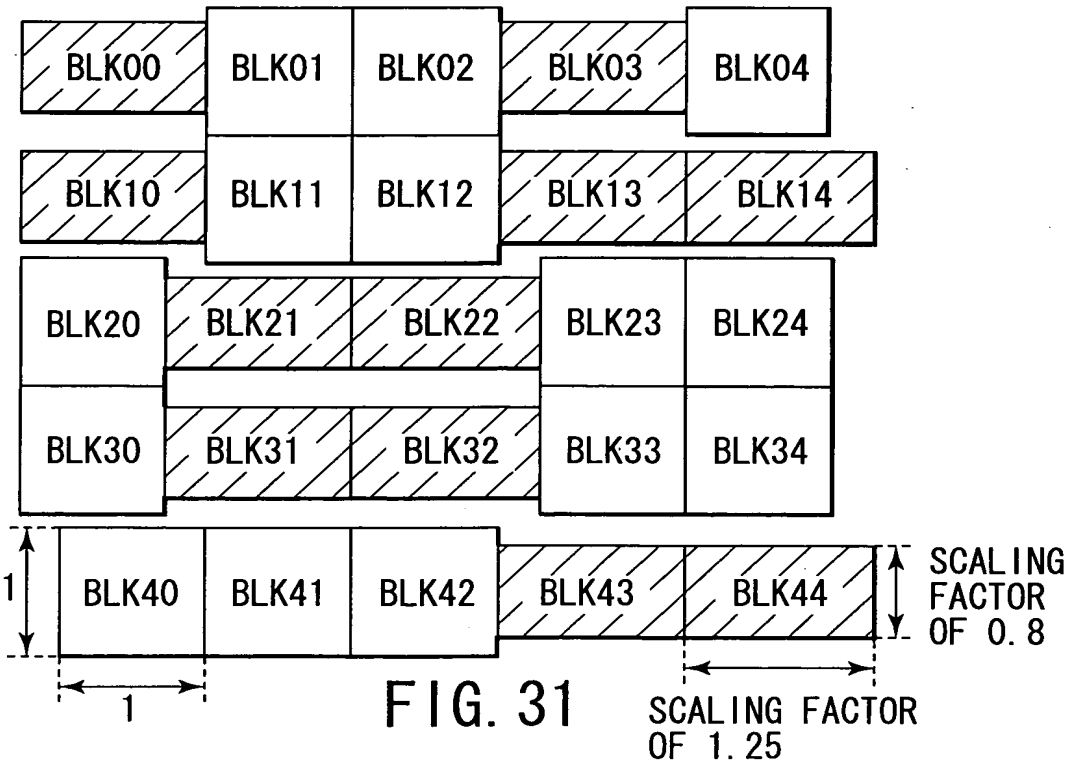


FIG. 31

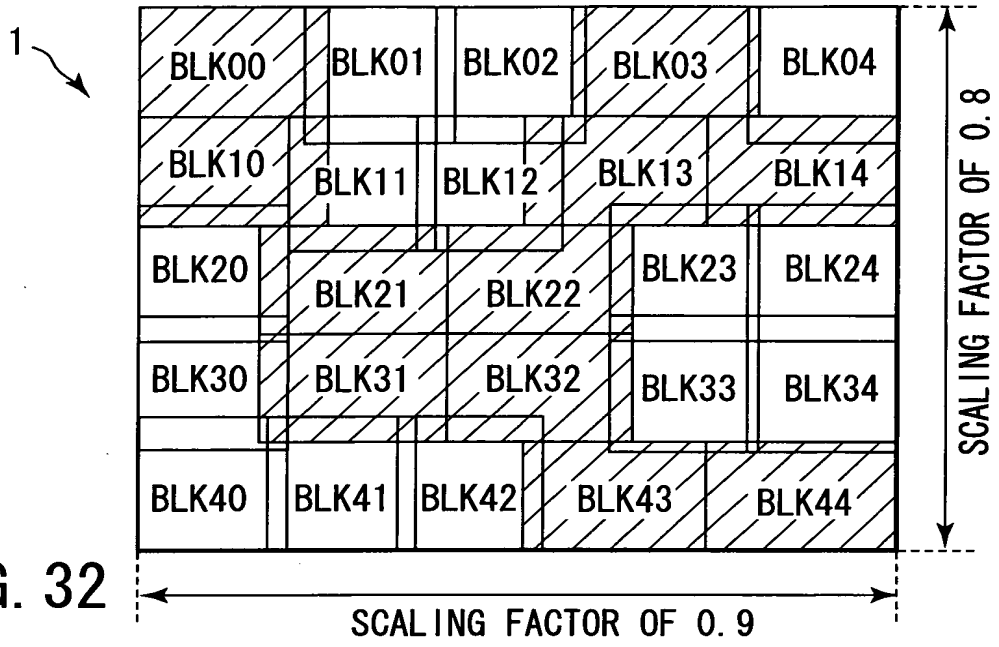


FIG. 32

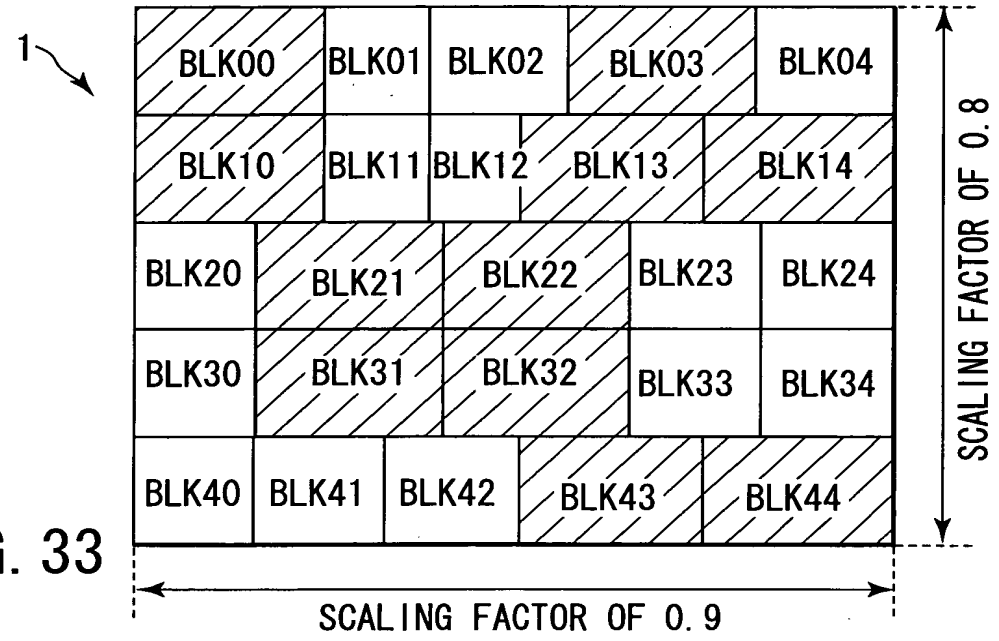


FIG. 33

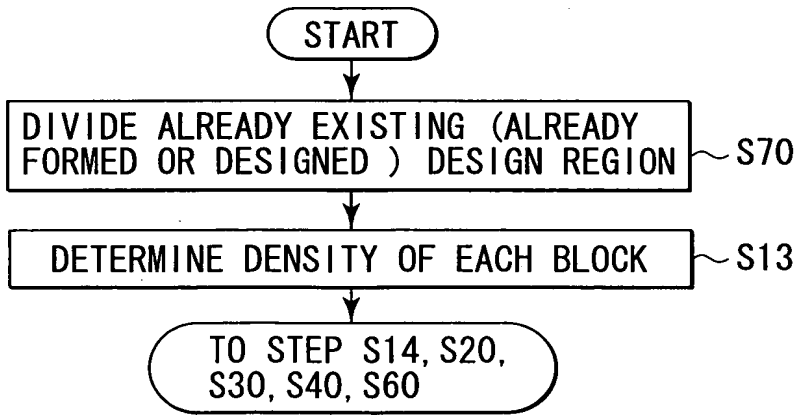


FIG. 34